CALIBER

MWR PROGRAMS AND READINESS LINKS: 2003 UPDATE

Final Report

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I. BACKGROUND AND UNDERSTANDING

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In 1994, Caliber Associates was contracted by the U.S. Army Community and Family Support Center (CFSC) to review the existing literature describing the relationship between morale, welfare, and recreation (MWR) programs and military readiness. The subsequent report and conceptual model that emerged from the literature review (Caliber, 1995) made several contributions to the knowledge of this relationship. First, it provided a definition of readiness that allows for a systematic evaluation of the MWR-readiness relationship in the military and civilian literature. This definition is multidimensional, recognizing the variation in how readiness has been conceptualized in the literature. In addition, the 1995 MWR Programs and Readiness Links report highlighted a number of direct and indirect relationships between MWR programs and readiness. These included documented linkages between MWR programs and the readiness dimensions of unit cohesion, fitness, technical competence, discipline, motivation/effort, preparedness, and commitment. Additional linkages highlighted in the 1995 report included the relationship of MWR programs with the intermediate outcomes of job satisfaction, family adaptation and skill-building—each of which contributes to individual and unit readiness in their own right.

Since the MWR Programs and Readiness Links report and conceptual model were issued in 1995, a number of researchers have published studies that bear directly or indirectly on the relationship between MWR and readiness. In addition to supplementing and reinforcing many of the relationships established in the 1995 report, this 2003 update provides evidence linking MWR programs with a number of subcomponents of readiness, including task cohesion (a subcomponent of unit cohesion), organizational citizenship behaviors (subcomponents of motivation/effort), and affective, normative and continuance commitment (subcomponents of commitment). Additional intermediate outcomes have also been identified in this 2003 update, and their relationships with MWR programs established. These intermediate outcomes include perceived organizational support and self and collective efficacy. The goals of this report are to update the 1995 model, examine these emergent facets of the MWR-readiness relationship, and to integrate more systematically research on the relationship between quality of life programs and organizational outcomes in the private sector.

The report is presented in the following chapters:

- Methodology
- 2003 Update of the MWR Programs and Readiness Linkages Model
- Evidence Supporting the 2003 Update.

The final chapter provides conclusions and recommendations for future research.

II. METHODOLOGY

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To examine the MWR-readiness relationship in the civilian and military literature, Caliber began by systematically identifying articles, technical reports, and other written documentation relevant to the relationship between MWR and readiness in general, and to the model developed in 1995 specifically. We searched databases of civilian literature, to include PsycINFO, ProQuest Direct, Social Science Abstracts, ABI/Inform, Business Source Premier, and findarticles.com. Also included in the literature search were several relevant organizations' Web sites and electronic resources, including the Society for Human Resources Management, the American Marketing Association, the Academy of Management, the Work and Family Connection, the Military Family Resource Center (MFRC), the Defense Technical Information Center (DTIC), the National Recreation and Parks Association (NRPA), and the Army Research Institute (ARI). Keywords used to guide the searches were derived from variables discussed in the 1995 model and were supplemented with additional keywords based on the authors' knowledge of recent research trends.

The majority of articles included in the literature review represent research published in peer-reviewed social science journals. The peer-review process within the academic community is an important quality control mechanism insuring that studies that ultimately reach publication have met high methodological standards. Of the studies included in this report that have not been published in academic journals, most represent technical reports produced or sponsored by the research branches within DoD or the individual Services. Additionally, a limited number of studies were included that represent findings from research conducted or sponsored by professional organizations within business or industry. All articles and studies incorporated into the literature review bear upon the MWR-readiness relationship and provided a clear documentation of the methodology used in the research. Studies that employed samples that were not representative of the population under study, that appeared to introduce unwarranted bias in the research design, or that failed to generate adequate survey response rates (i.e., under 30%) were not selected for inclusion.

Articles were sorted into thematic categories based on the 1995 model's components (i.e., MWR programs, intermediate outcomes, or readiness dimensions). Annotated bibliographies of each sorted article allowed the researchers to identify areas that were under-represented in the review. For these areas, we broadened the scope of the literature search to determine whether additional sources were available. This process helped identify areas in which a review of the research since 1995 suggested modifications to the model.

III. 2003 UPDATE OF THE MWR PROGRAMS AND READINESS LINKAGES MODEL

III. 2003 UPDATE OF THE MWR PROGRAMS AND READINESS LINKAGES MODEL

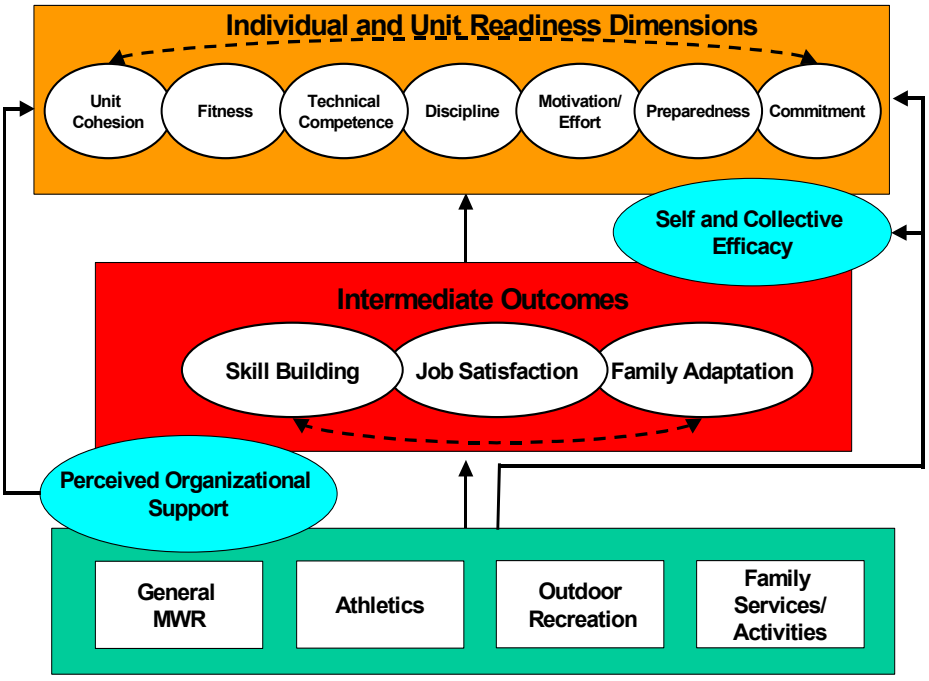
This chapter presents the 2003 Update of the MWR Programs and Readiness Linkages Model, describes its component parts, their relationships to one another, and documents the ways in which the new model differs from the 1995 model. These topics are covered in the following sections:

- Model Overview
- Model Definitions: MWR Programs, Readiness Dimensions and Intermediate Outcomes
- New Variables: Perceived Organizational Support and Efficacy.

1. MODEL OVERVIEW

The 2003 Update of the MWR Programs and Readiness Linkages Model is shown in Exhibit III-1:

EXHIBIT III-1
MWR PROGRAMS AND READINESS LINKAGES MODEL (2003)



A brief comparison with the 1995 model reveals that the essential strategy used to link MWR programs to readiness remains unchanged. This strategy conceptualizes readiness as a multidimensional construct, the dimensions of which are impacted both directly by MWR

programs, and indirectly through the linkages between MWR programs and the intermediate outcomes. These intermediate outcomes have demonstrated links to one or more dimensions of readiness.

While the basic strategy underlying the model has been maintained, the 2003 Update differs from the 1995 version in several respects. First, recent research suggests that the 1995 model could be strengthened through the addition of two intermediate variables—*perceived organizational support* and *self and collective efficacy*—that are prominently featured in the current literature on organizational psychology and team performance. These variables are defined and discussed in the section that follows.

Secondly, although readiness is defined using the same dimensions as in the 1995 model, it is clear that unit readiness, while still "inextricably intertwined" (Caliber, 1995: 21) with individual readiness, is not simply an aggregation of individual readiness. Recent studies suggest that groups possess properties that are not necessarily explained by the sum of the characteristics of individual members, and that these group-level factors have implications for individual behavior and outcomes (Schneider & Angelmar, 1993). The relationship between individual and unit levels of readiness are discussed in Chapter IV.

Finally, the revised model incorporates several new subcomponents of the individual readiness dimensions. For example, *organizational citizenship behaviors* (OCBs) are identified as subcomponents of the readiness dimension of motivation/effort. Similarly *affective*, *normative* and *continuance commitment* represent subcomponents of the readiness dimension of commitment. These new concepts, as well as the elements maintained from the earlier model, are defined and discussed in the sections and chapters that follow.

2. MODEL DEFINITIONS: MWR PROGRAMS, READINESS DIMENSIONS AND INTERMEDIATE OUTCOMES

This section provides definitions of key elements within the model. Elements unique to the 2003 Update are discussed in detail, highlighting the ways in which their inclusion improves the 1995 model. Additionally, research since 1995 suggests that some of the readiness dimensions in the 1995 model (e.g., unit cohesion) are themselves composed of subcomponents. Model definitions, including definitions of these subcomponents and their bearing on the MWR-readiness relationship, are provided in the following subsections:

- MWR Programs

- Readiness Dimensions
- Intermediate Outcomes.

2.1 MWR Programs

Caliber (1995) categorized MWR programs in a manner that allows for systematic examination of the relationship between MWR programs and readiness. MWR programs were categorized into related groups based on their likely relationship to readiness. The 1995 Caliber report defined four general types of MWR programs:

- Arts and Crafts
- Athletics
- Outdoor recreation
- Family Services/Activities.

Since 1995, the structure of MWR programs and their accompanying delivery systems has changed little. Each branch of the military still has a central oversight authority (e.g., the Army's Community and Family Support Center) that coordinates MWR programs/services across installations, while most of the day-to-day operations of MWR programs/services are handled at the installation level. Although specific programs differ from one branch of the military to another, each program can be placed in one of the four categories put forth in the 1995 model. This categorization schema is maintained throughout the 2003 Update, with the exception of the Arts and Crafts category, which has not been retained due to the absence of outcome-oriented research conducted specifically on these programs.

2.2 Readiness Dimensions

Caliber (1995) defined individual readiness as "the extent to which an individual is prepared, able, and motivated to perform his or her job as part of the larger military mission," and unit readiness by substituting unit for individual in the preceding definition. For the purpose of researching the MWR-readiness relationship, the 1995 Caliber report noted that readiness in the Army is a multidimensional construct that includes:

- **Unit cohesion.** Includes morale, teamwork, and esprit de corps
- **Fitness.** Includes both physical and mental fitness

- **Technical competence.** Includes both job-specific and non-job-specific task proficiency
- **Discipline.** The degree to which negative behavior, such as substance abuse at work, law or rule infractions and excessive absenteeism is avoided
- **Motivation/effort.** The consistency of an individual's day-to-day effort at work and the frequency with which he/she engages in organizational citizenship behaviors (OCBs), such as the exertion of extra effort and willingness to continue working under adverse conditions
- **Preparedness.** The extent to which soldiers report that they are prepared to deploy and effectively accomplish the Army mission
- **Commitment.** The strength of an individual's identification with and involvement in the work organization (includes allegiance, determination, and intent to remain in the Army).

This conceptualization of readiness is similar to Campbell's (Campbell, McCloy, Oppler & Sager, 1992) model of job performance, in that both models present performance/readiness as multidimensional and consisting of task performance (i.e., Technical Competence in the 1995 Caliber model and Job-Specific Task Proficiency in the Campbell model) and contextual performance (i.e., Discipline and Effort/Motivation in both models) dimensions.

2.3 Intermediate Outcomes

Some of the most well documented linkages between MWR and readiness involve indirect rather than direct relationships. As was articulated in the 1995 report, indirect relationships are modeled by specifying the relationship between MWR and an intermediate outcome, and the same intermediate outcome and readiness. While there is little published research from 1995-2002 that empirically demonstrates a direct relationship between specific types of MWR programs and specific dimensions of readiness, there is a larger body of evidence that supports relationships between the kinds of programs and services provided by MWR and intermediate outcomes. Drawing a link between MWR programs and these intermediate outcomes and subsequently highlighting the relationships between these intermediate outcomes and one or more dimensions of readiness provides a more thorough explanation of the mechanisms underlying the MWR-readiness relationship.

Given the complexity of most models of human behavior and attitudes, mediated (i.e., indirect) relationships are frequently examined in the social sciences. Caliber (1995) delineated the following three intermediate outcomes to link MWR with readiness:

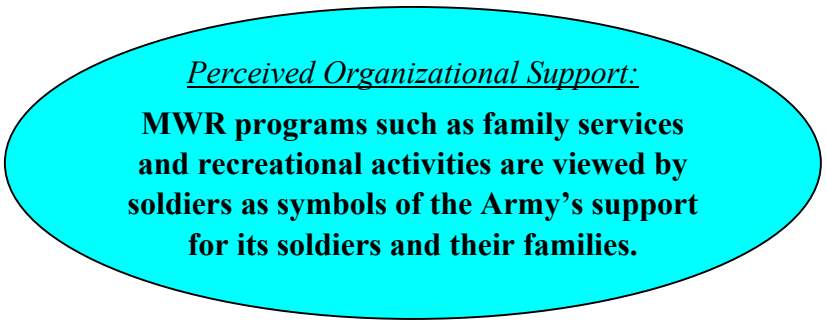
- **Skill Building.** Developing or enhancing the knowledge, skills, and abilities (KSAs) required to perform the job-specific and non-job-specific tasks that comprise the individual soldier's job

- **Job Satisfaction.** The extent to which an individual perceives their job to be personally rewarding and fulfilling

- **Family Adaptation.** The outcome of efforts by Army members and their families to manage the demands of Army life and to work together as a team in meeting Army expectations and achieving individual and collective goals. Family adaptation consists of an external dimension—the degree of fit between the family unit and the environment—and an internal dimension—the functioning and interdependency of family members as a unit.

3. NEW VARIABLES: PERCEIVED ORGANIZATIONAL SUPPORT AND EFFICACY

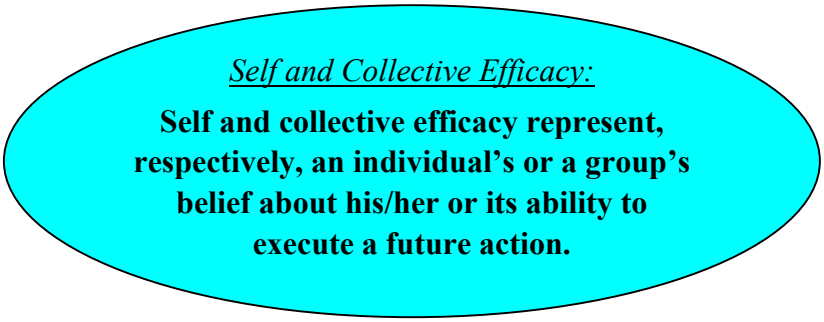
Two important variables to consider in examining the MWR-readiness relationship are *perceived organizational support* (POS), and *self and collective efficacy*. These variables have received considerable research attention since 1995 and help explain the MWR-readiness relationship. Perceived organizational support is a global belief about the organization's commitment to its members (Eisenberger et al., 1990). Levinson (1965) noted that organizational policies and decisions carried out by agents of the organization are often viewed as indicators of the organization's intent. Thus, MWR programs such as family services, childcare, recreation facilities, etc., may be interpreted by service members and their families as indicators of the military's support for its soldiers and their families.



Policies and programs that help employees balance the competing demands of work and family can enhance employees' perceptions that the organization cares about them (Lambert, 2000). For example, perceived organizational support is positively related to pay equity in the workplace and to perceived sufficiency of family-oriented policies and actions (Guzzo, Noonan, & Elron, 1994). Perceived organizational support may mediate (i.e., explain) the relationship

between both MWR programs and the intermediate outcomes, and MWR programs and readiness. Thus, in the 2003 model shown in Exhibit III-1, perceived organizational support is placed between MWR and the intermediate outcomes, as well as between MWR programs and readiness.

Self and collective efficacy may also help explain the relationship between MWR programs and readiness, as well as the relationship between the intermediate outcomes and readiness. Efficacy is a judgment made by an individual or group regarding their ability to perform tasks (Peterson, Mitchell, Thompson & Burr, 2000). Typically, *self-efficacy* reflects a belief about the individual's abilities to organize and execute tasks, while *collective efficacy* represents the collective perceptions of members of a group concerning its ability to perform. To the extent that MWR programs or the intermediate outcomes serve to increase efficacy, readiness may be increased as well.



For example, Schaubroeck, Lam, and Xie (2000) found that higher efficacy beliefs (job-related self-efficacy for one sample and collective efficacy for a second sample) were related to improved coping with job demands when perceived job control was high. Collective efficacy might be of specific interest to the Army, as it has been related to stronger team coordination for mock platoon teams and improved performance for teams in both routine and novel conditions (Marks, 1999). Thus, there seems to be an apparent relationship between efficacy and unit readiness, and it is included in the revised model (see Exhibit III-1) linking MWR programs and readiness, and linking the intermediate outcomes to readiness. Additional studies documenting the linkages between perceived organizational support and readiness, and efficacy and readiness, are presented in Chapter IV.

IV. EVIDENCE SUPPORTING THE 2003 MODEL UPDATE

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Since 1995, a great deal of literature has been published that bears on one or more aspects of the 1995 Caliber model. The findings within this literature provide the rationale behind the 2003 model and are presented below in the following sections:

- Differences between individual and unit readiness
- Subcomponents of key readiness dimensions
- Variables in the 1995 model: recent literature from the military and civilian sectors
- Variables unique to the 2003 Update: perceived organizational support and efficacy.

1. DIFFERENCES BETWEEN INDIVIDUAL AND UNIT READINESS

The 1995 Caliber report defines individual readiness as "the extent to which an individual is prepared, able, and motivated to perform his/her job as part of the larger military mission" (Caliber, 1995: iii) and explains that unit readiness can be conceptualized as an aggregate of individual readiness. Simply stated, "unit readiness merely involves substituting the word 'unit' for 'individual' " (Caliber, 1995: iii). Although the 1995 report's definition of individual readiness is still consistent with the current research regarding readiness in the military (e.g., Durkin, 1999), more recent findings in the civilian literature on groups and teams suggests that unit readiness may not simply be the aggregate of individual readiness (e.g., Wech, Mossholder, Steel, & Bennett, 1998). Klein and Kozlowski (2000) explain that one cannot assume from group or unit-level data (e.g., mean scores computed from aggregated individual-level data) that each member of the group shares the same value on any particular measure. Furthermore, Jehn and Chatman's (2000) findings suggest that group composition variables such as group conflict can have direct implications for group and individual outcomes.

For example, one unit with a moderate level of readiness may contain soldiers with high and low levels of individual readiness, whereas another unit with an equally moderate level of readiness may contain soldiers that are all at the same moderate level. Schneider and Angelmar (1993: 348) note that "measurement tends to rely on aggregating individual-level data thus representing the collective level as 'more or less' the sum of the parts when, in fact, the whole can represent both more and less than the sum of the parts…" These researchers suggest that approaching the collective level by depending on individual-level variables inhibits us from considering the influence of context and the role of internal dynamics within the unit. This implies that the Army should consider that MWR programs might have differential effects on individual readiness and unit readiness.

This line of research does not imply that individual and unit readiness are unrelated. In fact, Wech et al. (1998) explain that the cohesiveness of a group can affect performance at the individual-level. For example, MWR programs that encourage service members and/or their families to work together may increase unit cohesiveness directly (a component of unit readiness), which may, in turn, influence individual readiness. A service member who scores low on a measure of individual readiness may be encouraged by the unit as a whole, subsequently leading to improved unit readiness (Griffith, 1997). Griffith's study specifically reveals that cohesion is related to both individual and group combat performance. Consistent with recent research, the revised model defines unit readiness as related to, but not simply determined by, individual readiness.

2. SUBCOMPONENTS OF KEY READINESS DIMENSIONS

Recent research has identified a number of subcomponents of specific readiness dimensions, which informs a more detailed conceptualization of readiness. For example, in the same way that commitment is a subdimension of readiness, recent research has described several subcomponents of commitment. One result of this research is that these subcomponents may share unique relationships with MWR programs. That is, just as the strength of the MWR-readiness relationship is dependent upon the specific type of program and specific dimension of readiness under investigation, the relationship between a given MWR program and commitment may vary by subcomponent.

Literature published in recent years suggests that the following readiness dimensions from the 1995 model are themselves composed of additional subcomponents:

- Unit Cohesion
- Commitment
- Motivation/Effort.

By examining the subcomponents of these dimensions, we may develop a better understanding of the MWR-readiness relationship.

2.1 Unit Cohesion

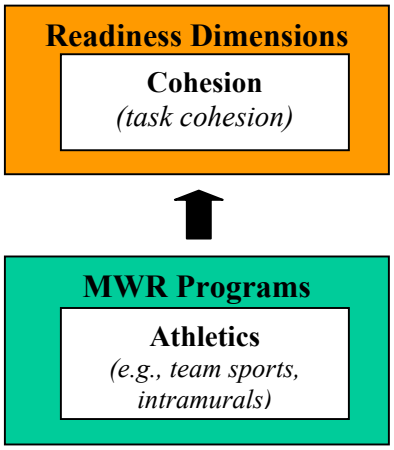
Recent research has identified two subcomponents of unit cohesion: social cohesion and task cohesion (Carron & Brawley, 2000). These subcomponents include two different types of social perceptions that individuals have with respect to their group, in addition to two fundamental foci for these social perceptions. The two social perceptions are (1) an individual's beliefs about the degree of unity and level of closeness the group experiences and (2) group

members' individual perceptions of how the group handles needs, members' level of attraction to the group, and their desire to remain a part of the group. The two foci include (1) social concerns, or relations within the group, and (2) task concerns, such as collective performance and group objectives. Consistent with this line of research, the revised model benefits from an examination of the relationship between MWR programs and both social cohesion and task cohesion.

A review of the recent literature on military cohesion suggests that task cohesion is more likely to be associated with performance than social cohesion (Mullen & Cooper, 1994; Griffith, 1997; MacCoun, 1993; Segal, 2000). For example, Mullen and Cooper (1994) note "the cohesiveness-performance effect is primarily due to commitment to task rather than interpersonal attraction or group pride" (p. 210). Under circumstances in which shared hardship must be experienced to achieve goals, members of the group come to "recognize and value the ability of other members to contribute to group missions" (Segal 2000: 20). Task cohesion thus becomes an asset of the group that, in turn, may help improve the group's performance.

For MWR programs, the implications of these findings are that those programs and activities that require team-based effort to succeed, such as athletics and intramural sports, may impact readiness by helping to build cohesion among the participants (see Exhibit IV-1). Whether cohesion fostered among athletic teams and intramural participants translates to improved performance in mission-oriented work activities is a question for future research.

EXHIBIT IV-1
MWR PROGRAMS THAT EMPHASIZE TEAMWORK MAY CONTRIBUTE TO TASK COHESION



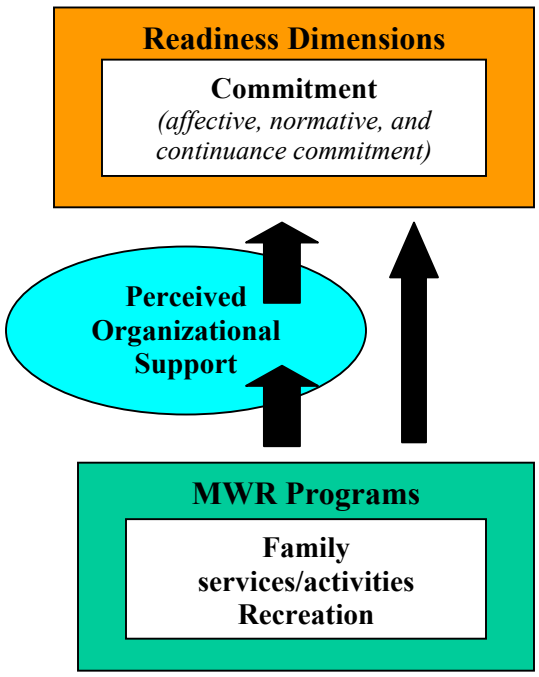
2.2 Commitment

Since the 1995 Caliber review of MWR programs and readiness links, there has been considerable research in the area of organizational commitment. This research adds to relationships already established in the model and informs more detailed hypotheses about the relationships between MWR programs and readiness. The 1995 report defines commitment as the strength of a person's identification with and involvement in the organization. The report notes that this construct incorporates three kinds of attitudinal and cognitive elements: allegiance, determination, and retention.

These concepts are closely related to the three-component model of commitment discussed by Irving, Coleman, and Cooper (1997) and Allen and Meyer (1996; Meyer & Allen, 1997). These models all include three subcomponents: affective, normative and continuance commitment. Affective commitment describes an individual's emotional linkage to an organization. Normative commitment describes the extent to which an individual has personally adopted the norms and values of the organization. Continuance commitment refers to the cost an individual associates with leaving an organization (Irving et al., 1997). Typically, continuance commitment is conceptualized negatively, as an obligation, rather than a desire, to remain in an organization. Research also suggests that continuance commitment is linked to poor job performance, while affective and normative commitment are both linked to enhanced performance (Meyer & Allen, 1997).

The definition in the 1995 Caliber report focuses primarily on intent to remain/re-enlist in the Army as an indicator of commitment; however, it is likely that MWR programs influence each aspect of the three-component model: affective, normative and continuance commitment. For example, a 1997 study by Tsui et al., found that employees tend to report higher levels of affective commitment to an employer when they feel their employer has invested in them. Similarly, Settoon, Bennett and Liden (1996) show that perceived organizational support— defined as a global belief about the organization's commitment to its members and which may be derived from MWR programs— can lead to increased overall organizational commitment, to include normative and continuance commitment. MWR family services and recreation programs may lead to increased continuance commitment to the extent that members lose these privileges if they leave the Army. These studies indicate that MWR programs may increase each of the subcomponents of commitment. These linkages are shown in Exhibit IV-2.

EXHIBIT IV-2
MWR PROGRAMS MAY CONTRIBUTE TO AFFECTIVE, NORMATIVE, AND CONTINUANCE COMMITMENT THROUGH PERCEIVED ORGANIZATIONAL SUPPORT



2.3 Motivation/Effort

In the civilian literature, the most closely related constructs to the readiness dimension of motivation/effort are organizational citizenship behaviors (OCBs). OCBs are pro-social, altruistic behaviors that are discretionary in nature and, while not part of an employee's formal role requirements (Podsakoff, Ahearne, & MacKenzie, 1997), contribute to the effective functioning of the organization (Podsakoff et al., 1997). For example, studying private sector organizations, Podsakoff and MacKenzie (1997) report that 17 percent of the variance in organizational performance could be explained by OCBs. A second study conducted within the private sector (Koys, 2001) provides longitudinal evidence that, within the private sector, OCBs predict organizational performance (e.g., profitability).

Like the construct of commitment, researchers have broken down OCBs into distinct dimensions (Podsakoff et al., 1997). The primary dimensions are (Podaskoff & MacKenzie, 1997; Podsakoff et al., 1997):

- **Sportsmanship.** Willingness on the part of the employee to accept less than ideal conditions without complaining

- **Civic Virtue.** Behavior that an employee engages in that indicates that he/she is committed to the standing of the organization
- **Helping Behavior.** Actions that help prevent work-related problems in the unit and that encourage others.

There are several possible routes through which OCBs might relate to unit readiness (Podsadoff & MacKenzie, 1997). First, OCBs may increase unit readiness by enhancing efficiency. For example, when more experienced individuals voluntarily help newer service members, these members increase their readiness at a faster rate (Podsakoff et al., 1997). Over time, these helping behaviors can become a mechanism through which "best practices" are spread (Podsakoff & MacKenzie, 1997). OCBs may also improve unit readiness by allowing supervisors to devote more time to strategic planning and securing valuable resources (Podsakoff et al., 1997).

In addition, OCBs may improve readiness by enhancing the Army's ability to attract and retain soldiers. OCBs contribute to a positive working environment by increasing team cohesiveness and a sense of belonging, thus creating a better place to work and consequently increasing the Army's ability to attract and retain soldiers.

A number of factors have been linked as potential causes of OCBs, including the receipt of positive performance feedback (Bachrach, Bendoly, & Podsakoff, 2001), and the possession of pro-social values (e.g., altruism) on the part of the employee (Rioux & Penner, 2001). More important for purposes of establishing linkages between MWR programs and OCBs, however, are two studies demonstrating that job satisfaction is also a precursor to OCBs (Organ & Ryan, 1995; Netemeyer, Boles, McKee, & McMurrian, 1997). Job satisfaction—a key intermediate outcome in the 1995 Caliber model—is one of the outcomes of MWR programs, and thus the relationship between job satisfaction and OCBs offers new support for the link between MWR programs and readiness. Exhibit IV-3 illustrates the relationship between MWR programs, job satisfaction, OCBs, and readiness. The exhibit conceptualizes OCBs as important subcomponents of motivation/effort, and by extension, readiness.

EXHIBIT IV-3
LINKAGES BETWEEN MWR PROGRAMS, JOB SATISFACTION, AND ORGANIZATIONAL CITIZENSHIP BEHAVIORS (OCBS)

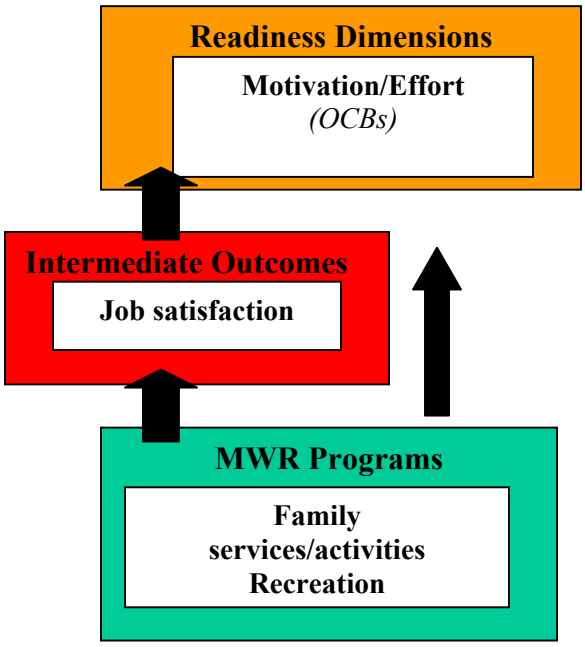
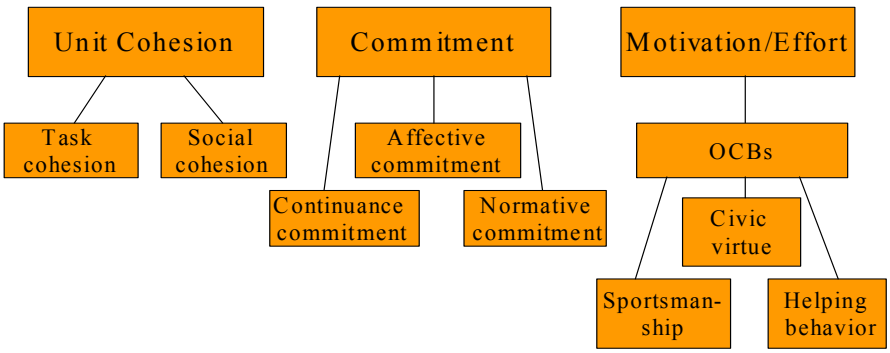


Exhibit IV-4 illustrates all of the subcomponents identified in this section and the three readiness dimensions with which they are associated.

EXHIBIT IV-4
SUBCOMPONENTS OF READINESS DIMENSIONS



3. VARIABLES IN THE 1995 MODEL: RECENT LITERATURE FROM THE MILITARY AND CIVILIAN SECTORS

In this section, we review recent literature, in most cases published since 1995, that focuses on one or more variables included in the 2003 Model Update. The findings are organized by type of linkage and presented in the following two subsections:

- Direct Links of MWR Programs to Readiness Dimensions
- Indirect Links of MWR Programs to Readiness Dimensions.

The first subsection discusses the direct links between MWR programs and readiness dimensions, and includes only research carried out in a military context. The second subsection discusses two kinds of evidence establishing indirect links between MWR and readiness. These are: 1) Studies from either the military or private sector highlighting linkages between the model's intermediate outcomes and either MWR programs or readiness, and, 2) Studies demonstrating a link between employee programs in the private sector and organizational outcomes.[1] As in the 1995 report, it should be stressed that the importance of the link is unrelated to whether it is direct or indirect. Indirect links are simply those that influence intermediate outcomes en route to impacting readiness.

3.1 Direct Links of MWR Programs to Readiness Dimensions

Since 1995, a limited number of studies have been conducted in a military context that provide support for a direct linkage between MWR programs and readiness. Some of these studies report relationships between specific types of programs and specific components of readiness, while others report general relationships between MWR programs and readiness. These studies are reviewed below.

Kennett (1999) has fielded an evaluation of Navy MWR afloat programs. In interviews and surveys of more than 200 enlisted and officer sailors assigned to 6 military vessels with MWR programs, Kennett found that the strongest views supporting a relationship between MWR and mission readiness indicators were held by shipboard leaders. He notes that during interviews with these officers:

[1] While some of the studies conducted in private sector settings offer promising results for establishing linkages between Army MWR and readiness, they are based on civilian populations and thus cannot be considered evidence of a *direct* relationship in the military context without further study.

> "Leaders spoke glowingly of how their MWR programs have especially strong relationships with the morale, cohesion, wellness and work stress reduction outcomes among their crews." (pg. 258)

Kennett explains, however, that a large gap exists between the perceptions of Navy officers and enlisted personnel in the extent to which they report that MWR impacts readiness. His study found that the best predictor of whether enlisted personnel believe that MWR impacts cohesion, morale, mission readiness, and other indicators is satisfaction with MWR programs. As a rule, those sailors who tended to be satisfied with MWR afloat were also those who were most likely to report that MWR programs impact readiness. Actual participation in MWR programs was less effective in predicting beliefs about the MWR-readiness relationship. The study provides a number of recommendations geared towards enhancing the contribution of MWR programs to mission readiness in the Navy. These include strengthening leadership commitment to MWR afloat programs, and building effective networks that can communicate the importance of MWR to enlisted sailors.

Since 1995, two major evaluation efforts have been conducted on the Army Family Team Building (AFTB) program. AFTB is an official Army program aimed at improving soldier and family readiness and family self-sufficiency through education (Lederer & Shaffer, 1996; Caliber Associates, 2002). Based on focus group data collected from soldiers, family members, program staff, volunteers, and installation leadership at locations within most every Major Army Command (MACOM), both studies found general support that the AFTB program enhances family readiness, and in particular, family preparedness for deployment. In both focus groups and surveys, AFTB participants in the 1996 study by Lederer and Shaefer reported that the program helped them manage finances and cope with stress. Family member respondents considered themselves better prepared for their soldier's deployment as a result of exposure to the AFTB curriculum.

Findings from the 2001-2002 Assessment of AFTB (Caliber Associates, 2002) corroborate earlier research and also suggest that, as a result of participation in AFTB, Army spouses gain increased familiarity with the Army, more realistic expectations of Army life, and greater self-sufficiency. Army-wide outcomes of spousal participation in AFTB include more cohesive Army communities, reduced burden on other Army programs and on rear detachments during deployments, and fewer mission distractions for the soldier (Caliber Associates, 2002). This last outcome is important, because Schumm and Bell (2000) reported that soldiers in overseas deployments who worried about the effects of the deployment on their families tended to report interference with their duty performance because of family concerns.

In a recent analysis of data from the Survey of Army Families IV (SAF IV), Orthner (2002) reports regular use of MWR recreation facilities by more than two-thirds of Army spouses living on-post, and high rates of satisfaction with MWR program quality. The SAF IV survey data indicate that MWR is directly linked with family readiness in that frequent use of MWR among Army family members is related to higher levels of personal and family adjustment. MWR programs were also found to be an important component of quality of life for the majority of respondents living on-post. Similar to the findings of the 2001-2002 AFTB assessment described above, Orthner (2002, p. 7) notes that the analysis of the SAF IV survey data "confirms that strengthening MWR programs and services can pay off in families who are better able to cope and adapt to the demands that the Army places on them." These studies show a direct link between MWR self-reliance programs and preparedness.

Jandzinski (1995) examined the relationship between situational factors and performance among Air Force personnel in rear-echelon bases during Operation Desert Storm. His research identified direct relationships between MWR and morale (r=.47), cohesiveness (r=.36) and motivation (r=.34). These results support the direct relationship between MWR and unit cohesion and motivation/effort. Similarly, Fafara (1998) examined MWR satisfaction among Army participants in Operation Joint Endeavor/Guard in Hungary and Bosnia. Of the 619 respondents to this survey, 96 percent indicated that MWR programs help them maintain physical fitness, while 94 percent indicated that MWR programs help them maintain mental fitness. In addition, 91 percent of respondents indicated that MWR programs improve unit morale. These results provide support for the relationship between MWR programs and fitness and unit cohesion.

Studies assessing quality of life (QoL) in the Marine Corps have consistently supported the direct relationship between MWR programs and readiness (Kerce, 1995; White, et al., 1999; Decision Engineering Associates, 2002). These studies, products of the Marine Corps' ongoing QoL research program, report significant positive relationships between global quality of life (a composite of several QoL domains, including leisure and recreation, self, income, and marriage), and personal readiness, job performance, and intent to reenlist (i.e., commitment) for Marines.

The Marine Corps conducted a pilot study in 1998 aimed at measuring the military outcomes (e.g., readiness, performance) influenced by Marine and family member use of a wide range of USMC QoL programs, including child care, relocation services, fitness and recreation facilities, and libraries among others (Kerce et al., 1999). While the reported number of program users participating in the pilot study typically numbered fewer than 300 per program, the study did gather data from a geographically representative set of USMC installations and QoL programs. Among the findings, substantial majorities of users of USMC child care and relocation services reported these programs help them concentrate on their duties—an aspect of

the readiness dimensions of both preparedness and technical proficiency. Additionally, large majorities of users of USMC fitness programs and recreation facilities agreed that these programs and facilities help reduce stress and make a "direct contribution to readiness" (Kerce et al., 1999: 24).

The Navy Personnel Command recently sponsored a pilot study examining the relationship between Navy QoL programs and military outcomes, including readiness and retention (Schwerin, et al., 2002). Employing a methodology that draws from and builds on the Marine Corps pilot effort described above (Kerce et al., 1999), researchers collected data about perceived program outcomes from individual users of many of the Navy's MWR programs. Findings from the Navy pilot study are similar to those found by Kerce et al. (1999), and provide additional support for a direct link between military MWR and readiness. Among the findings, large majorities of sailors using the Navy child development program reported that the program helped them concentrate on their duties and that it directly contributes to readiness. Majorities of active duty sailors who used Navy recreation programs and Navy youth programs reported a direct impact of these programs on health and safety, on their ability to concentrate on their duties, and on overall readiness.

While the previously reviewed studies use a psychological or sociological approach, research by Koopman and Goldhaber (1997) took an econometric approach in examining the outcomes of MWR programs in the Navy. In their return on investment (ROI) study of the Navy's MWR programs, the authors integrated information from multiple surveys to quantify the relationship between a number of variables, including satisfaction with MWR programs and continuation probability (e.g., intent to remain in the military). They found a strong relationship between continuation probability and two variables: satisfaction with MWR programs and satisfaction with family service centers. Koopman and Goldhaber then conducted a cost-benefit analysis. Their study asserted that for an investment in MWR programs of $241 million dollars, the Navy saved $1.534 billion in recruitment and training. The study also placed the return on investment for family service centers at $733 million for an investment of $39 million.

The major conclusions that can be drawn from this recent literature about the direct relationship between MWR programs and readiness, illustrated below in Exhibit IV-5, include:

- MWR programs, in general, are related to most readiness dimensions
- MWR programs focused on family services/activities are related to commitment and preparedness
- MWR recreation and athletic programs are related to fitness and preparedness.

EXHIBIT IV-5
DIRECT LINKS BETWEEN MWR PROGRAMS AND READINESS

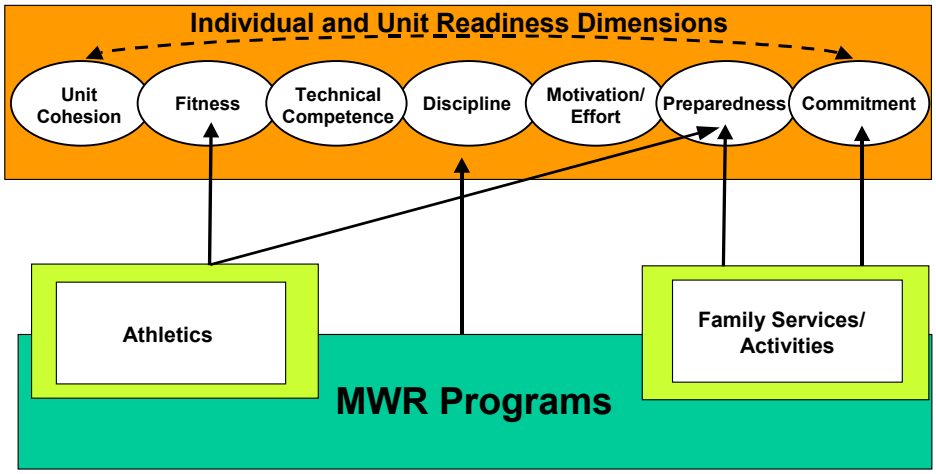


Exhibit IV-6 on the following pages provides a matrix summarizing the literature and findings presented in this section on direct links between MWR programs and readiness.

EXHIBIT IV-6
DIRECT LINKS OF MWR PROGRAMS TO READINESS: CITED STUDIES

MWR Programs / Readiness Dimensions	MWR Programs (General)	Family Services/ Activities	Athletics	Outdoor Recreation
Unit Cohesion	Correlation exists between MWR use and cohesiveness and morale (Jandzinski, 1995). MWR programs enhance unit morale (Fafara, 1998). Shipboard leadership reports MWR impacts cohesion and morale. A majority of those satisfied with Navy MWR report MWR impacts cohesion and morale (Kennett, 1999).			
Fitness	MWR programs enhance physical and mental fitness (Fafara, 1998). Shipboard leadership reports MWR impacts wellness. A majority of those satisfied with Navy MWR report MWR impacts wellness and work stress reduction (Kennett, 1999).	AFTB helps Army family members cope with stress (Lederer & Shaffer, 1996). USMC temporary lodging helps to minimize stress. Most USMC substance abuse counseling program users report program helps them lead healthier lives (Kerce et al., 1999).	Majorities of surveyed users of military fitness programs report these programs help reduce stress and directly contribute to readiness (Kerce et al., 1999; Schwerin et al., 2002).	Majorities of users of military recreation centers (e.g., golf, bowling) report centers help maintain health (Kerce et al., 1999; Schwerin et al., 2002).
Technical Competence				
Discipline	Shipboard leadership reports MWR impacts discipline. A majority of those satisfied with Navy MWR report MWR impacts discipline (Kennett, 1999).			

EXHIBIT IV-6 (CONT.)
DIRECT LINKS OF MWR PROGRAMS TO READINESS:
CITED STUDIES

Readiness Dimension / MWR Programs	MWR Programs (General)	Family Services/ Activities	Athletics	Outdoor Recreation
Motivation/Effort	Correlation exists between MWR use and motivation (Jandzinski, 1995).			
Preparedness	Family members who use MWR report higher levels of adjustment to Army life (Orthner, 2002).	AFTB results in fewer mission distraction for soldiers; enhances family preparedness for deployments (Caliber 2002; Lederer & Shaffer 1996). Majorities of surveyed users of military childcare and relocation assistance report these programs allow them to concentrate on their duties (Kerce et al, 1999; Schwerin, 2002).		
Commitment	MWR programs are associated with intent to reenlist among Marines (Kerce, 1995). Satisfaction with MWR is related to continuance commitment. Spending on MWR results in positive return on investment (Koopman & Goldhaber, 1997). Shipboard leadership reports MWR impacts commitment. A majority of those satisfied with Navy MWR report MWR impacts commitment (Kennett, 1999).	Satisfaction with Family Service Centers (FSCs) is related to continuance commitment. Spending on FSCs results in positive return on investment (Koopman & Goldhaber, 1997).		

3.2 Indirect Links of MWR Programs to Readiness Dimensions

The evidence presented in this section supports the existence of indirect linkages between MWR programs and the dimensions of readiness in the model. Studies presented in this section are of two types:

- Studies from either the military or the private sector linking MWR, employee programs, and/or readiness to intermediate outcomes
- Studies demonstrating a direct link between employee programs in the private sector and organizational outcomes.

The reason this second category of studies is not considered evidence of direct linkages in the updated model is because the cited research, while promising, was carried out in a civilian environment and may not be immediately comparable to the military setting.

Studies Linking MWR, Employee Programs, and/or Readiness to Intermediate Outcomes

Focusing first on studies that support the linkages between MWR programs and/or readiness to the intermediate outcomes, the AFTB evaluation conducted by Lederer and Shaffer (1996) reported that Army Family Team Building programs significantly increase spouse participants' satisfaction with Army life, a variable related to job satisfaction, which is a key intermediate outcome in the model.[2] Corroborating this linkage is the previously mentioned study of Navy MWR by Koopman and Goldhaber (1997), which integrated data from multiple surveys and found that, as satisfaction with MWR programs increases, so does overall satisfaction with Navy life. Koopman and Goldhaber independently examined satisfaction with family service centers, childcare, and MWR programs. The results indicated that satisfaction with family service centers is positively related to overall satisfaction, while satisfaction with childcare is not. Findings from the Survey of Army Families IV (SAF IV) also showed that MWR programs contribute to family adaptation and are an important factor in family members' perceptions of quality of life within the Army (Orthner, 2002). These studies support a link between MWR programs and the intermediate outcomes of job satisfaction and family adaptation.

With respect to linkages between intermediate outcomes and readiness, a number of studies have identified a relationship between job satisfaction and *job performance*— an

[2] Interestingly, in the AFTB evaluation, Lederer and Shaffer (1996) found that satisfaction with Army life actually decreased for soldiers with a longer military tenure. These conflicting results may be an artifact of the changing nature of the military in the mid-1990s. Lederer and Shaffer hypothesize that "AFTB training may offer novices the promise of a receptive and predictable community" (p. 53). Apparently, the training led some experienced participants to dwell on the possibility that deployments were about to increase in frequency and duration.

outcome conceptually similar to readiness. To date, empirical support for the relationship between satisfaction and performance is mixed, and typically researchers suggest that the correlation between these two constructs is somewhat weak. Judge et al. (2001), however, cite research suggesting that the satisfaction-performance relationship may be artificially low because most measures of job satisfaction are cognitive rather than emotional (Brief & Roberson, 1989). It is possible that more emotionally-oriented measures of job satisfaction would support the relationship between job satisfaction and emotional determinants of job performance (e.g., motivation, commitment). Overall, the Judge et al. (2001) study reports a much stronger correlation between satisfaction and performance (r=.30) than had been previously recognized.

In a recent look at the relationship between *skill building* and performance, Keil and Cortina (in press) reviewed all major studies linking the two constructs. The authors report that while a clear relationship between skill and task performance exists, its magnitude deteriorates as time between skill measurement and task performance lengthens, regardless of skill or task characteristics. This deterioration follows a nonlinear pattern in which the relationship between skill and performance will plateau for a period of time and then drop, followed by another plateau and another drop, ad infinitum. Therefore, when measuring the impact of skill building on technical competence, it is important to understand that the impact of declines as the period between skill building and measurement of performance lengthens.

A 1999 study by Canadian researchers at McMasters University (Browne et al., 1999) illustrates the importance of recreation services for skill building among youth. Citing the study's findings, the National Recreation and Parks Association reports that Canadian youth recreation services for children of single mothers has helped children with mental health disorders to maintain social, physical and academic competence at levels similar to other children. In addition to contributing to the skills of young people, these youth programs paid for themselves through a reduction in the use of social and health services, and were also associated with a significant increase in the number of parents becoming independent of social assistance from the Canadian government.

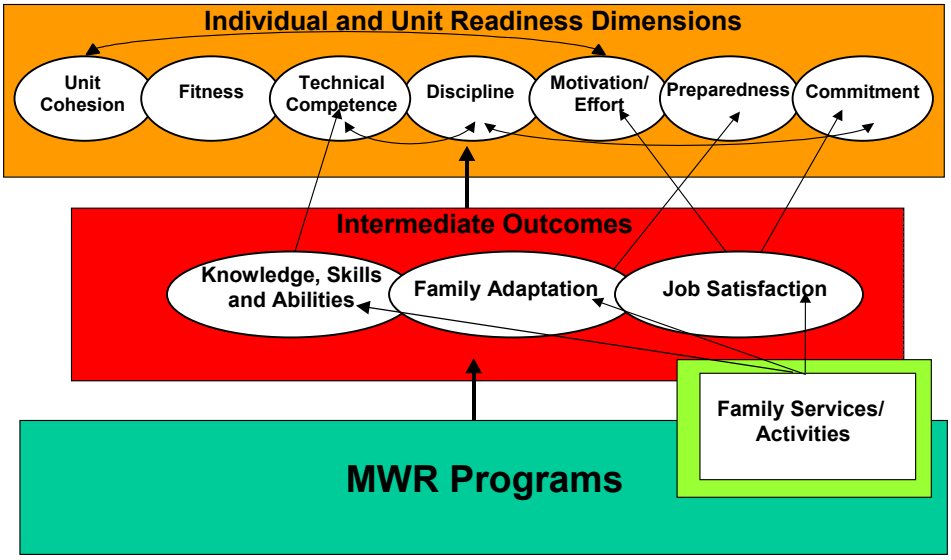
Other research has examined the relationship between *job satisfaction* or *family adaptation* and specific readiness components. For example, Schumm and Bell (2000) report significant correlations between satisfaction with Army life and intent to remain/reenlist in the Army. Schumm, Bell, & Resnick (2001) found that family factors, particularly measures of external family adaptation (e.g., the family's level of adjustment to Army life) were significant predictors of individual readiness. Calabria (1999) provides examples of private sector organizations that have implemented both skill building and family adaptation programs. In each case, the programs appear to have resulted in increased commitment and job performance.

It should be noted that a number of studies indicate interrelationships among readiness components. For example, Yagil (1995) reports strong correlations between unit cohesion and motivation (r=.43) and morale (r=.57). Similarly, a great deal of research relates components of motivation/effort to commitment (e.g., Podsakoff & MacKenzie, 1997; Work and Family Connection, 2001). These interrelationships suggest that increasing levels of specific readiness components may also increase other readiness components.

The major conclusions that can be drawn from this literature about the relationship between MWR programs, intermediate outcomes, and readiness are illustrated in Exhibit IV-7 and include:

- MWR programs, in general, are related to satisfaction with military life
- Youth services programs are related to skill building among youth
- Family services/activities are related to satisfaction with military life and to family adaptation
- Family adaptation is related to preparedness
- Skill building is related to technical competence
- Job satisfaction is related to motivation/effort and to commitment
- Readiness components can be interrelated, including:
  - Unit cohesion is related to motivation
  - Motivation/effort is related to commitment.

EXHIBIT IV-7
INDIRECT LINKS BETWEEN MWR PROGRAMS, INTERMEDIATE OUTCOMES, AND READINESS



Exhibits IV-8 and IV-9 on the following pages present matrices summarizing the literature and findings presented in this section on indirect links between MWR programs, intermediate outcomes, and readiness.

EXHIBIT IV-8
STUDIES LINKING INTERMEDIATE OUTCOMES WITH READINESS

Readiness Dimensions / Intermediate Outcomes	Unit Cohesion	Fitness	Technical Proficiency	Discipline	Motivation/ Effort	Commitment	Preparedness
Skill Building			Correlation exists between skill building, and task performance but deteriorates over time (Keil and Cortina, forthcoming). Skill building programs in private sector enhance job performance (Calabria, 1999).			Skill building programs in the private sector enhance commitment (Calabria, 1999).	
Family Adaptation			Soldiers worried about family difficulties with deployment report interference with performance of their duties (Schumm and Bell 2000).			Family adaptation programs in the private sector enhance commitment (Calabria, 1999).	External family adaptation is a significant predictor of individual readiness (Schumm et al., 2001).
Job Satisfaction			Moderate correlation exists between satisfaction and job performance (Judge et al., 2001).		Job satisfaction is a precursor to organization citizenship behaviors (OCBs) (Organ & Ryan, 1995; Netemeyer et al., 1997).	Satisfaction with Army life is significantly correlated with intent to reenlist (Schumm & Bell, 2000).	

EXHIBIT IV-9
STUDIES LINKING MWR PROGRAMS WITH INTERMEDIATE OUTCOMES

MWR Programs / Intermediate Outcomes	MWR Programs (General)	Family Services/ Activities	Athletics	Outdoor Recreation
Skill Building		Canadian youth services and recreation services help close the skill gap among young people with mental disorders, and help families become more self-reliant (Browne et al., 1999).		
Family Adaptation	MWR programs and services contribute to family adaptation (Orthner, 2002).	Family services/activities are related to family adaptation in the Army (Orthner, 2002; Schumm & Bell, 2000; Schumm, Bell & Resnick, 2001).		
Job Satisfaction	As satisfaction with Navy MWR programs increase, so does satisfaction with Navy life (Koopman & Goldhaber, 1997). MWR programs contribute to perceived quality of life in the Army (Orthner, 2002).	Satisfaction with Family Service Centers is related to satisfaction with Navy life for Navy personnel (Koopman & Goldhaber, 1997). Family services/activities are related to satisfaction with Army life (Orthner, 2002; Schumm & Bell, 2000; Schumm, Bell & Resnick, 2001).		

Relevant Research Studies from the Civilian Sector

Most research on organizational behavior and outcomes is conducted in non-military settings (e.g., private sector organizations, state or government agencies, non-profit organizations). While studies conducted on populations outside the military community are not always directly comparable to the Armed Forces community, a great deal can be learned about potential MWR and readiness linkages from the efforts of researchers working outside the military context. Since the advent of the all-volunteer force (AVF), similarities between the military and the civilian sectors have increased (Moskos, 1988). The sustainment of an all-volunteer military—coupled with an increase in the technological skills required by today's services members—has resulted in a larger proportion of career-oriented personnel with significant family obligations in the Armed Forces (Segal, 1993). In both the military and civilian sectors, a range of programs and services (e.g., employee assistance programs, work-life initiatives, and MWR) have emerged to aid in personnel retention, to enhance employee quality of life, and to help workers balance their professional and family obligations. These developments have occurred in part because employers, both civilian and military, have realized that "expecting employees to cope with their non-work difficulties alone, with no involvement by the organization, is not effective" (Cohen & Schwartz, 2002).

A great deal of literature exists on the relationship between the model's readiness dimensions and family services, employee assistance programs, and work-life initiatives in the civilian sector. The Work and Family Connection maintains a clearinghouse of information demonstrating evidence of these relationships. This organization cites hundreds of studies and popular press articles describing the relationship between family-responsive policies and recruitment, retention, absenteeism, employee health and wellness, productivity, commitment and morale. For example, the Work and Family Connection Website (www.workfamily.com) cites a 1997 study by the Economic Policy Institute relating employee perceptions of their organization's work-family policies to commitment. This finding is consistent with earlier research by Goldberg, Greenberger, Koch-Jones, O'Neil, and Hamill (1989) that found up to 40 percent of employees reported being willing to leave their current employer to receive child care benefits from another employer. Other research cited by the Work and Family Connection suggests family services (e.g., on-site child care) reduce absenteeism by up to 30 percent, and that employees who use family services are more motivated to ensure the success of their companies.

Similarly, evidence of the outcomes of employee assistance programs (EAPs) indicates that employees who participate in EAPs improve their functioning in the organization (Cohen & Schwartz, 2002). Such employees have fewer insurance claims, less absenteeism, and fewer disciplinary problems. EAP programs in the civilian sector are similar to Army programs and

services provided collectively through Army Community Services (ACS), the Office of the Surgeon General of the Army, the Army Center for Substance Abuse Prevention (ACSAP), and Army Mental Health. These agencies provide, among other services, counseling resources for employees dealing with difficult issues such as marital crises, depression, suicide prevention, and anger management.

Similarities to Army fitness, athletics, and outdoor recreation programs can be found in employee fitness and wellness programs, which have been the subject of study by Gebhardt and Crump (1990), Pelletier (1988), and Aldana (2001). These studies suggest that the outcomes of such programs may include reduced health care costs, reduced injuries, less frequent turnover and absenteeism, as well as improved morale and job performance. Most of these outcomes are either dimensions of readiness, or subcomponents of existing readiness dimensions. Gebhardt and Crump (1990) note, however, that most of these benefits have been realized in white-collar settings with a relatively low average participation rate. Similarly to EAP programs and other services provided to employees on a voluntary basis, the personal benefits from employee fitness programs accrue to participants only, and concerted efforts must be made to increase awareness and use among non-participants.

Certain Army MWR programs mirror "work-life" initiatives that can be found in the civilian sector. Private sector firms seeking to minimize employee turnover and to attract and maintain a committed, motivated workforce are employing work-life strategies to help achieve this goal (Konrand & Mangel, 2000). Implicit in such decisions is the belief that work-life initiatives offer performance benefits for the organization, and there is evidence to suggest this is the case. Research indicates that these programs, many of which are designed to aid workers in balancing the demands of work and family, may reduce lateness, absenteeism, and other withdrawal behaviors (Blau, 1985). Other studies suggest that those firms that provide longer parental leaves generate greater job satisfaction among new mothers (Holtzman & Glass, 1999), and that the provision of onsite child care is linked to a variety of desirable attitudinal outcomes on the part of employees (Lobel, 1999). Programs that fulfill the function of these private-sector work-life programs (e.g., military childcare centers, relocation assistance, etc.) may be especially relevant and valuable for employees of the Armed Forces, considering the military can place unusually stressful and unique demands on its members, including frequent relocation, 24-hour liability for duty, and the threat of injury or death (Segal, 1986).

The conclusions that can be drawn from this review of relevant literature from the private sector are illustrated in Exhibit IV-10 and include the following:

- Work-life programs aimed at balancing work and family roles are related to commitment, motivation/effort, and job satisfaction

- Employee assistance programs (EAPs) are related to discipline
- Employee fitness and wellness programs are related to fitness, discipline, and commitment.

EXHIBIT IV-10
LINKS BETWEEN PRIVATE SECTOR EMPLOYEE PROGRAMS AND ORGANIZATIONAL OUTCOMES

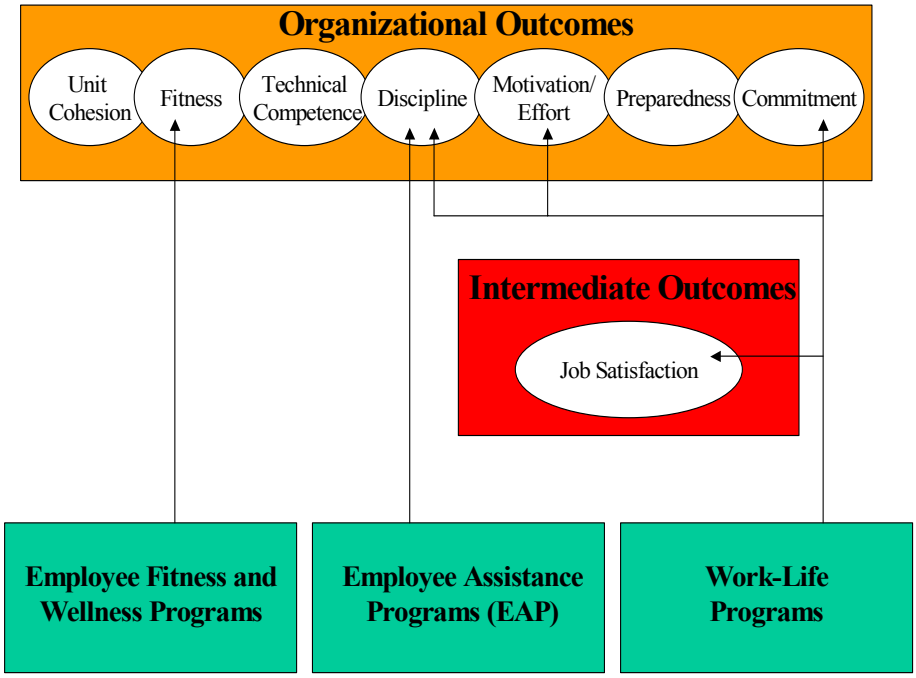


Exhibit IV-11 on the following page provides a matrix summarizing the literature and findings presented in this section on links between employee programs in the private sector and organizational outcomes.

EXHIBIT IV-11
STUDIES LINKING PRIVATE SECTOR EMPLOYEE PROGRAMS WITH ORGANIZATIONAL OUTCOMES

Employee Programs / Organizational Outcomes	Employee Fitness and Wellness Programs	Employee Assistance Programs (EAP)	Work-Life Programs
Fitness	Employee fitness and wellness programs help reduce employee injuries and healthcare costs (Pelletier, 1988; Gebhardt & Crump, 1990; Aldana, 2001).		
Discipline	Employee fitness and wellness programs are related to reduced absenteeism (Pelletier, 1988; Gebhardt & Crump, 1990; Aldana, 2001).	EAPs help employees reduce absenteeism and decrease their disciplinary problems (Cohen & Schwartz, 2002).	Child care benefits help reduce absenteeism (Work and Family Connection, 2001; Blau, 1985).
Motivation/Effort			Employees that use employee family services are more motivated to insure the firm success (Work and Family Connection, 2001).
Commitment	Employee fitness and wellness programs can lead to reduced turnover among participants (Gebhardt & Crump, 1990; Pelletier 1988).		Work-life programs, including child care benefits, enhance organizational commitment (Economic Policy Institute, 1997; Goldberg et al., 1989).
Job Satisfaction			Firms providing longer parental leaves generate greater satisfaction among new mothers (Holtzman & Glass, 1999).

4. VARIABLES UNIQUE TO THE 2003 UPDATE: PERCEIVED ORGANIZATIONAL SUPPORT AND EFFICACY

Recent research in organizational behavior and team performance has identified two important variables that may help to explain the relationship between MWR programs and readiness: perceived organizational support and efficacy. Although there is little research using military populations on the relationship between these variables and readiness, there is substantial evidence from the civilian sector that supports the relevance of these constructs. This section discusses these two new variables in more detail.

4.1 Perceived Organizational Support: Overview of Findings

As mentioned in Chapter II, *perceived organizational support* (POS) represents a global belief on the part of employees "concerning the extent to which the organization values their contributions and cares about their well-being" (Eisenberger at al., 2002, p. 565). Research suggests that perceived organizational support may influence the linkage between MWR programs and readiness. For example, Orthner and Pittman (1986) found that job commitment was associated with high levels of perceived organizational support for families. Other research suggests that affective organizational commitment in particular is associated with high levels of perceived organizational support (Eisenberger et al., 1990; Guzzo et al., 1994; Wayne, Shore, & Liden, 1997) and that perceived organizational support is negatively related to absenteeism (Eisenberger et al., 1990) and turnover intentions (Guzzo et al., 1994; Wayne et al., 1997). Within the military context, Burnam, Meredith, Sherbourne, Valdez and Vernez (1992) found that perceptions of Army support for families decreases job-related problems in the Army. Other research suggests that personnel seem to demonstrate more well-being when their supervisors and organizational culture are perceived as supportive (Galinsky, Bond, & Friedman, 1996; Greenhaus, Bedeian, & Mossholder, 1987).

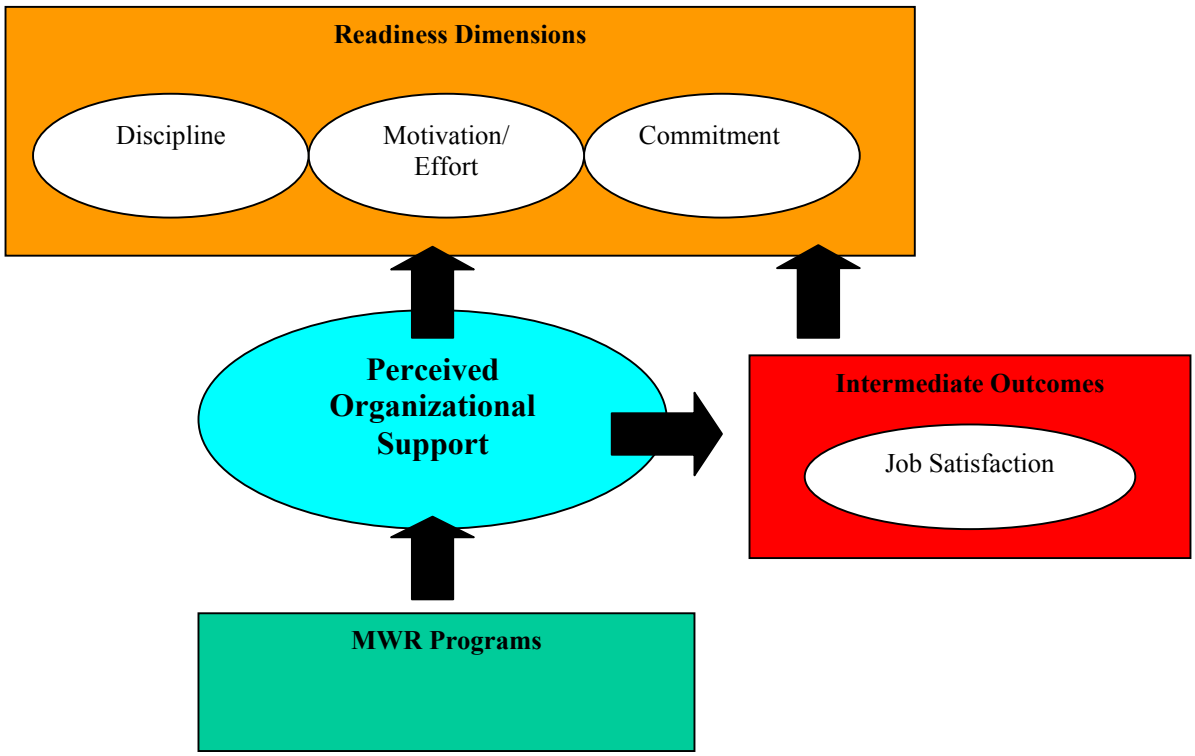
Perceived organizational support has also been linked with increased effort. Employee judgments about the organization's level of commitment to them and to the reward of greater effort are based on POS. Employees who perceive that their organization values their contributions and cares about their well-being feel obligated to increase their effort, whereas repeated indications that the organization does not value employee contributions and fails to reward increased performance reduces employees' perceived obligations (Rousseau, 1995).

Perceived organizational support may also affect some of the intermediate outcomes in the model, including job satisfaction. In the 1995 model, MWR programs increase job satisfaction, which, in turn, increases readiness. Research carried out since the 1995 Caliber model has found a positive relationship between perceived organizational support and job

satisfaction (Cropanzano, Howes, Grandey, & Toth, 1997; Randall, Cropanzano, Bormann, & Birjulin, 1999; Witt, 1997). These studies provide an explanation of the mechanisms supporting the link between MWR programs and job satisfaction. The evidence suggests that the more employees perceive their organization supports them, the higher level of job satisfaction they will experience. On the other hand, to the extent that Army programs and policies are not perceived as supportive or meeting personnel needs, critical readiness components and intermediate outcomes may suffer.

Through MWR programs, the military can increase the perception that it cares about and supports its service members. Thus, the 2003 Model has been revised to show that to the extent MWR programs increase perceived organizational support, they should also increase job satisfaction, commitment, and motivation/effort and decrease absenteeism and turnover—all essential dimensions of readiness. Exhibit IV-12 illustrates the predicted relationships between MWR programs, perceived organizational support, the intermediate outcomes, and readiness.

EXHIBIT IV-12
LINKAGES OF PERCEIVED ORGANIZATIONAL SUPPORT TO MWR, INTERMEDIATE OUTCOMES, AND READINESS DIMENSIONS

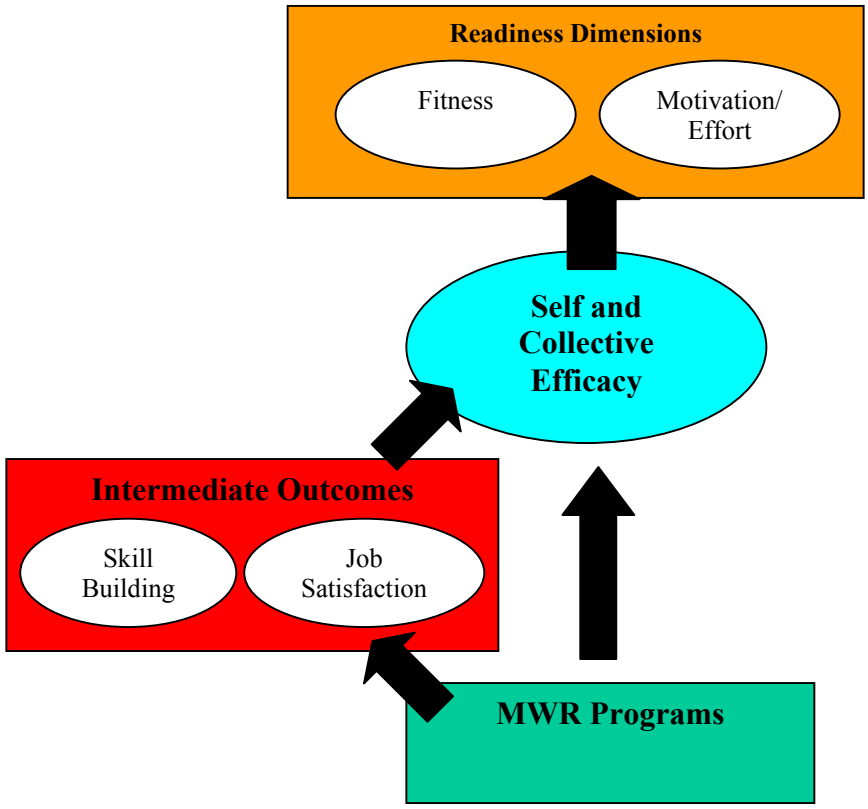


4.2 Efficacy: Overview of Findings

Efficacy is a set of variables that may also influence the relationship between MWR programs, the intermediate outcomes, and readiness. An emergent concept in the organizational behavior and team performance literature, efficacy refers to the beliefs held by an individual (self-efficacy) or group (collective efficacy) about their ability to complete a task. Research has found that self-efficacy is an important mediating factor when examining the relationship between individual differences and task performance (Chen, Casper, & Cortina, 2001; Phillips & Gully, 1997), and that both self and collective efficacy act as moderators in the relationship between strain and stressors (Jex & Bliese, 1999). Individuals with higher self-efficacy appear to react less adversely to physical and psychological strain and report higher levels of job satisfaction than individuals low with self-efficacy (Jex & Bliese, 1999). Because greater resistance to physical and psychological stressors is a defining feature of fitness, self-efficacy is linked to readiness through this dimension, and also to the intermediate outcome of job satisfaction.

Additional linkages are highlighted by Gardner and Pierce (1998), who suggest that employees who exhibit self-efficacy are more persistent and contribute greater effort. Collective efficacy was also found by Jex and Bliese (1999) to be related to job satisfaction—an intermediate outcome—and organizational commitment—a key dimension of readiness. Writing about self-efficacy in an organizational context, Gardener and Pierce (1998) note that organizations can gain significant performance benefits by providing employees with organizational support, skills, and abilities that strengthen their task-based self-efficacy. Army MWR programs currently represent a visible manifestation of organizational support, and a vehicle through which certain skills and abilities are provided to the organization's members. Based on the research cited in this section, MWR programs appear to contribute—either directly, or indirectly through the provision of knowledge, skills, and abilities (KSAs)—to self and collective efficacy, and through efficacy, to readiness. These predicted relationships are illustrated in Exhibit IV-13.

EXHIBIT IV-13
LINKAGES OF SELF AND COLLECTIVE EFFICACY TO MWR PROGRAMS, INTERMEDIATES OUTCOMES AND READINESS DIMENSIONS



Perceived organizational support and efficacy may mediate the relationship between intermediate outcomes and readiness. The specific conclusions that can be drawn from this review of the literature on perceived organizational support and efficacy, documented in Exhibits IV-14 and IV-15 and IV-16, are the following:

- Perceived organizational support is related to discipline, commitment, motivation/effort, and job satisfaction
- Most military MWR programs and services are related to perceived organizational support among service members and their families
- Self and collective efficacy are related to unit cohesion, fitness, motivation/effort, and job satisfaction.

EXHIBIT IV-14
PERCEIVED ORGANIZATIONAL SUPPORT AND SELF AND COLLECTIVE EFFICACY: LINKS TO MWR PROGRAMS

MWR Programs / New Variables	MWR Programs (General)	Family Services/ Activities	Athletics	Outdoor Recreation
Perceived Organizational Support		Perceived sufficiency of family-oriented policies and programs is positively associated with POS (Guzzo et al., 1994). Majority of surveyed users of USMC and Navy childcare, counseling services, and family support programs believe each program demonstrates their Service's concern for personnel and families (Schwerin et al., 2002; Kerce et al., 1999).	Majority of surveyed users of USMC and Navy fitness programs and facilities and programs believe these programs and facilities demonstrate their Service's concern for personnel and families (Schwerin et al., 2002; Kerce et al., 1999).	Majority of surveyed users of USMC and Navy recreation centers believe these centers demonstrate their Service's concern for personnel and families (Schwerin et al., 2002; Kerce et al., 1999).
Self and Collective Efficacy	Programs that enhance employee skills and abilities can lead to greater task-based self-efficacy (Gardener & Pierce, 1998).			

EXHIBIT IV-15
PERCEIVED ORGANIZATIONAL SUPPORT AND SELF AND COLLECTIVE EFFICACY: LINKS TO READINESS DIMENSIONS

Readiness Dimensions / New Variables	Unit Cohesion	Fitness	Technical Competence	Discipline	Motivation/ Effort	Commitment	Preparedness
Perceived Organizational Support		Employees demonstrate more well-being when their supervisors and organizational culture are perceived as supportive (Galinsky et al., 1996; Greenhaus et al., 1987).		POS negatively related to absenteeism in the private sector (Eisenberger et al., 1990) and job-related problems in the Army (Burnam et al., 1992).	Employees who feel the organization values their well-being feel obligated to increase their effort (Rousseau, 1995).	POS is linked to greater organization commitment (Settoon et al., 1996; Wayne et al., 1997; Guzzo et al., 1994; Eisenberger et al., 1990). Job commitment in the Army is related to POS for families (Orthner, 1986).	
Self and Collective Efficacy	Collective efficacy is related to stronger team coordination for mock platoon teams in the Army (Marks, 1999).	Individuals with higher self-efficacy react less adversely to physical and psychological strain (Jex & Bliese, 1999).	Higher self and collective efficacy beliefs are associated with improved coping with job demands (Schaubroeck et al., 2000). Collective efficacy is associated with improved performance for Army teams in both routine and novel conditions (Marks, 1999).		Individuals who report greater efficacy are more persistent and contribute greater effort (Gardner & Pierce, 1998).		

EXHIBIT IV-16
PERCEIVED ORGANIZATIONAL SUPPORT AND EFFICACY: LINKS TO INTERMEDIATE OUTCOMES

MWR Programs / New Variables	Skill Building	Job Satisfaction	Family Adaptation
Perceived Organizational Support		Positive relationship between perceived organizational support and job satisfaction (Cropanzano et al., 1997; Randall et al., 1999; Witt, 1997).	
Self and Collective Efficacy		Collective efficacy is related to job satisfaction (Jex & Bliese, 1999).	

V. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

V. CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

The literature since 1995 provides additional support for the relationship between MWR programs and readiness. Findings within the civilian literature on organizational behavior and team performance led to several modifications to the 1995 model. By including perceived organizational support and efficacy as potential mediators of the relationships between MWR programs, the intermediate outcomes and readiness, additional evidence supporting the MWR-readiness relationship was uncovered. Similarly, describing subcomponents of readiness dimensions (e.g., motivation and commitment) allowed a clearer documentation of the nature of the links supporting the MWR-readiness relationship. Among the major conclusions that resulted from the 2003 Update of the MWR and Readiness Linkages Model:

- Military QoL Programs, including Army MWR, enhance perceived organizational support among military Service members and their families. Perceived organizational support in turn impacts a number of readiness dimensions, including discipline, motivation/effort, and commitment
- MWR programs in general and family support programs in particular positively impact family readiness and family adaptation, which, in turn, influence individual and unit readiness
- Through their influence on soldiers' job satisfaction, MWR programs can impact readiness by helping to foster organizational citizenship behaviors
- Most employee programs shown to positively impact organizational outcomes in the civilian sector have a military counterpart within Army MWR programs.

Several limitations of this study should be addressed. First, evidence of a link in the literature is only valid to the extent that the characteristics of actual Army MWR programs are reflected in the programs studied in the literature. Given that the purpose of this report was to summarize existing literature bearing on the MWR-readiness relationship, the lack of evidence of a specific linkage in the current literature does not negate the possibility that such a linkage could be supported by future research.

Additionally, the current results do not provide any description of the magnitude of the links. That is, determining that a relationship exists between family services/activities and commitment does not describe the extent to which family services/activities actually impact commitment. One technique for examining the magnitude of a relationship that relies only on existing findings is to conduct a meta-analysis. Meta-analysis is a statistical procedure used to provide a picture of the true relationship between two variables. It involves aggregating results across multiple studies and providing statistical corrections for common problems resulting from sampling. Such an approach would provide a valuable basis for examining the utility of MWR

programs for readiness, but it does rely on identifying relevant quantitative information in the literature. Alternatively, as was proposed in the 1995 Caliber model report, the most direct way to examine the impact of MWR on readiness is to evaluate the model's links empirically using extant data. This approach is a cost-effective and scientific approach to establishing the relationship between MWR programs and readiness.

The strongest support for the MWR-readiness relationship can only come from examining this relationship directly. For example, research should be conducted to evaluate the links proposed in the current model empirically using data from current users of MWR programs. An empirical analysis of current data involves three primary steps. The first step is to identify sources of data that could be used to examine relevant links. One source is the recent 2000 Leisure Needs Survey that examined military members' use of and satisfaction with specific MWR programs. The second step is to create measures of key variables in the model (e.g., satisfaction, commitment). Using these measures, the next step is to analyze the relationships among variables in the model. This approach might involve empirically testing the relationship between recreation program participation and measures of satisfaction with military life and commitment (both normative and affective) to determine the impact of recreation programs on commitment. Analyses of this kind are a direct method of enhancing our understanding of the MWR-readiness relationship.

This report provides important information about the relationship between MWR programs and readiness. Beyond providing evidence supporting this relationship, the report modifies the 1995 model to include several new constructs that help clarify the relationship. The report also identifies a number of potential gaps in the research literature that may be relevant to understanding this relationship and informative to future research decisions.

VI. REFERENCES

VI. REFERENCES

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APPENDIX:
MWR PROGRAMS BY CATEGORY

MWR PROGRAMS BY CATEGORY

Category A - Mission-Sustaining Programs

- Armed Forces Entertainment
- Gymnasiums, field houses, pools for aquatic training, and other physical fitness facilities/training programs
- Library and Information Services
- Movies (free admission: overseas and isolated/remote locations)
- Natural areas, undeveloped
- Nature centers and nature and fitness trails
- Parks, picnic areas, barbecue pits, pavilions, game fields, playgrounds
- Community Recreation Centers
- Sports (individual, intramural, unit)
- Unit (or company) level activities (support/activities that maintain mission readiness, improve unit teamwork, and create esprit de corps)

Category B - Community Support Programs

- Arts and Crafts
- Automotive skill (includes self-help car wash)
- Bowling centers (12 lanes or less)
- Cable/Community TV
- Child and Youth Services
- Entertainment (Performing Arts–Music, Drama, Theater)
- Information, ticketing, and registration services
- Outdoor recreation programs
  - Archery ranges
  - Beach facilities, including bathhouses and lifeguard stations
  - Campgrounds, small (less than 100 spaces)
  - Garden plots
  - High adventure activity areas (such as adventure training, hang gliding, rappelling facilities)
  - Hunting/fishing areas and control stations
  - Marinas without retail sales or private boat berthing
  - Off-road vehicle areas and trails
  - Outdoor recreation checkout centers (includes tents, coolers, sleeping bags, stoves, water and snow skis, canoes, jon boats, bicycles, and other program-related equipment. Incidental items such as lantern fuel, fishing hooks, and bait, and non-program-related equipment, such as chain saws, lawn mowers, boats and trailers designed for overnight use, and resale activities which are considered category C programs and must be funded with NAFs).
  - Stables (Government-owned or leased horses for recreational riding)
  - Trails (bicycling, cross-country skiing, hiking, backpacking, etc.)
- Sports above intramural level (including athletic courts, fields, courses)
- Stars and Stripes[1]
- Swimming pools (recreational/stand alone)
- World Class Athlete Program (WCAP)

MWR PROGRAMS BY CATEGORY (CONT.)

Category C - Revenue-Generating Programs:

- Amusement machines
- Aquatics centers (commercial grade water theme parks)
- Armed Forces Recreation Centers (AFRCs)/Joint Services facilities (accommodations, dining, and resale functions)
- Army and Air Force Exchange Services (AAFES)[2]
- Army Recreation Machine Program (ARMP) (ARMP gaming activities)
- Audio/photo retail sales (overseas only)
- Bingo
- Bowling centers (over 12 lanes)
- Civilian dining, vending, and other resale activities and services (Army Civilian Welfare Fund (ACWF) and Post Restaurants)[3]
- Commercial travel
- Food, beverage, and entertainment operations (includes catering)
- Golf courses and companion operations
- Military clubs (officers', NCO, enlisted, community) (includes catering)
- Cabins, cottages, cabanas, and fixed mobile home/trailer operation
- Campgrounds (100 or more spaces)
- Flying activities
- Marinas/boathouses (resale, private boat berthing, chartered boats)
- Motorcycle/MOPED/other motor sports activities
- Rod and gun activities/skeet and trap
- Ski slope operations
- Sport parachuting activities
- Stables (boarding for privately-owned mounts)
- Recreational Lodging (includes cabins, cottages, hotels, motels)
- Resale operations
- Skating rinks, regardless of type
- Snack bars and soda fountains not operated by AAFES
- Other revenue-generating programs, subject to resale policy (chap 12).

[1] For S&S policy see DOD Directive 5122.11
[2] For AAFES policy, see AR 60-20
[3] For ACWF policy, see AR 215-7